

Reconsideration of the Application is respectfully requested.

Claim 3 has been Amended, no new matter has been added.

Claims 7-24 have been withdrawn from consideration.

Claim 25 has been added, no new matter has been added. Support for the Amendment can be found at least in the specification at page 10, lines 15-19.

Applicants note that the Election in Response to the Restriction Requirement was with traverse. Applicants reserve their right to rejoinder of the non-elected claims prior to a notice of allowance for the elected claims Group I in accordance with the guidance given by the Commissioner of Patents and Trademarks in 1184 OG 86. See *In re Ochiai*, 37 USPQ2d 1127 (Fed. Cir. 1995) and *In re Brouwer*, 37 USPQ2d 1663 (Fed. Cir. 1996). See also, MPEP §821.04, which states:

Where product and process claims drawn to independent and distinct inventions are presented in the same application, applicant may be called upon under 35 U.S.C. 121 to elect claims to either the product or process. See MPEP Section 806.05(f) and Section 806.05(h). The claims to the nonelected invention will be withdrawn from further consideration under 37 C.F.R. 1.142. See MPEP Section 809.02(c) and Section 821 through Section 821.03. However, if applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims which depend from or otherwise include all the limitations of the allowable product claim will be rejoined.

Thus, Applicants reserve the right to amend the claims of Group II and Group III to include all limitations of the product claims and rejoin them once claims 1-6 are allowed.

Applicants note that claim 3 was not rejected on prior art grounds and contend that claim 3 is allowable over the art of record.

Claim 3 is rejected under 35 U.S.C. §112, second paragraph. The Examiner asserts that Claim 3 describes a relationship indefinitely. Claim 3 has been amended to describe a bonding structure in which bonding layer comprises a Co layer, and a diffusion layer. Applicants submit that Claim 3 is definite and respectfully request that the rejection is withdrawn.

Claim 1, 2, 4, and 6 were rejected under 35 U.S.C. §102(b) as being anticipated by Cerutti et al. (“Cerutti”) (US 5,273,557) or Fuller et al. (“Fuller”) (US 4,919,220). Claims 1, 4, 6 were also rejected under 35 U.S.C. §102(b) as being anticipated by Cho et al. (“Cho”) (US 5,151,107) or General Electric (EP 402 671). Applicants respectfully traverse the rejection.

Claims 1-6 disclose a bonding structure of a cemented carbide element and a diamond element. The bonding structure comprises a bonding layer including a diffusion layer in which at least a metal diffuses into the cemented carbide and/or diamond. The diffusion layer is schematically shown in Figures 7 and 8. The bonding structure of the present claims provides high bonding strength (*see*, Specification, page 2, lines 27-30). In addition, the bonding layer absorbs the stress caused by heat treatment and prevents cracking of the diamond element (*see*, Specification, page 3, lines 1-7). The diffusion layer included in the bonding layer relieves impact stress caused by actual use of the diamond element (*see*, Specification page 4, lines 3-10).

Cerutti describes brazing drill bits made of polycrystalline diamond to a drill (*see*, Cerutti, column 1, lines 45-61). Fuller describes a cutting element of polycrystalline diamond bonded to a backing element of cemented tungsten carbide by brazing (*see*, Fuller, column 5, line 62

In general, brazing makes little or no influence on materials subjected to bonding (brazing). The brazing of a diamond element and a cemented carbide element may provide a bonding structure comprising a cemented carbide element, diamond element, and a metal layer but it does not form a diffusion layer. Due to the short time period for a usual brazing process, substantial diffusion in cemented carbide or diamond cannot be expected, even at higher temperatures. None of the above-three references describes formation of a diffusion layer. Concerning the diffusion in diamond element, the brazing condition does not include the range shown in Figure 9 of the present application. Therefore, Cerutti, Fuller, and General Electric do not describe or suggest a bonding structure comprising a bonding layer including a diffusion layer.

Further, Cho describes a compact of metal-coated diamond. The compact may be backed with cemented carbide. Cho describes diffusion of Co of the cemented carbide into the metal coating layer in the compact (*e.g., see*, Cho, column 14, lines 63-66), but does not describe a formation of a diffusion layer. Cho's diffusion is a broad diffusion affecting a whole portion of the compact (*see*, Cho, column 8, line 65 to column 9, line 4). In an embodiment including formation of a layer between the diamond compact and the backing, an effect for inhibiting diffusion is expected for the layer (*see*, Cho, column 9, lines 21-27). Therefore, Cho also fails to describe the bonding structure comprising bonding layer including a diffusion layer.

Claim 2, 4, and 6 depend from claim 1 and are allowable based at least on their dependency to the independent claim and the argument above. Applicants respectfully request rejection be withdrawn.

Claim 5 depends from claim 1 and, as argued above, none of the cited references describe the bonding structure of the present application. Further, JP04-114966 and JP04-074766 describe a sintered diamond having high heat resistance and do not provide the teaching or suggestions lacking in Cerutti, Fuller, Cho, and/or General Electric.

CONCLUSION

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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